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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,720	07/08/2003	Sotaro Oda	FUJZ 20.498	9424

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EXAMINER	
JEAN GILLES, JUDE	
ART UNIT	PAPER NUMBER
2143	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/615,720	ODA ET AL.	
	Examiner	Art Unit	
	Jude J. Jean-Gilles	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/10/2005, and 07/08/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to communication filed on 07/08/2003. Claimed priority is granted from foreign application Priority No. 2002-237247 with an effective filing date of 08/16/2002 .

Information Disclosure Statement

1. The references listed on the Information Disclosure Statement submitted on 08/10/2005 and 07/08/2003, have been considered by the examiner (see attached PTO-1449A).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> ((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 2, 4, 6, 7, 12-20** are rejected under 35 U.S.C. 102(b) as being anticipated by Frantz et al (Frantz), Patent No. 6,111,876.

Regarding **claim 1**, Frantz discloses a LAN switching (figs. 5 a, and b) method comprising:

a first step of establishing a plurality of VLAN's different from

each other for a single group composed of a plurality of members (column 7, lines 22-31), and

a second step of mapping frames from the members to a predetermined VLAN selected from among the VLAN's (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 2**, Frantz discloses the LAN switching method as claimed in claim 1, further comprising, between the first and the second steps, a third step of mapping a received frame to the group to which a source member of the frame belongs, based on information of the frame received (column 7, lines 22-45),

the second step mapping the frame to a predetermined VLAN selected from among a plurality of VLAN's of the group to which the frame has been mapped (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 4**, Frantz discloses a LAN switching method comprising:

a first step of associating a plurality of paths with a VLAN having a plurality of members as components (column 7, lines 22-31);, and

a second step of mapping frames from the members to a predetermined path selected from among the paths(column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 6**, Frantz discloses a LAN switch comprising:

a VLAN table for associating a plurality of different VLAN's with

a single group composed of a plurality of members (column 7, lines 22-31), and

a VLAN mapping portion for mapping frames from the members to a predetermined VLAN selected from the VLAN table (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 7**, Frantz discloses a LAN switch comprising:

a VLAN table for associating a plurality of paths with a single VLAN having same members as components (column 7, lines 22-31), and

a VLAN mapping portion for mapping frames from the members to a predetermined path selected from among the paths (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 12**, Frantz discloses the LAN switch as claimed in claim 6, further comprising a

VLAN group table for associating information of a frame with the group to which a source member of the frame belongs (Frantz; column 7, lines 22-45), and a VLAN group mapping portion for mapping a received frame to an associated group based on information of the frame by looking up the VLAN group table (Frantz; column 4, lines 54-67),

the VLAN mapping portion mapping the frame to a predetermined VLAN of the group selected from the VLAN table(column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 13**, Frantz discloses the LAN switch as claimed in claim 6, further comprising a line fault detector for detecting a line fault on each VLAN,

the VLAN mapping portion mapping the frame to a predetermined VLAN based on fault information from the line fault detector (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 14**, Frantz discloses the LAN switch as claimed in claim 6 wherein the VLAN mapping portion sequentially maps the frame to each VLAN per frame (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 15**, Frantz discloses the LAN switch as claimed in claim 6 wherein the VLAN mapping portion maps the frame to a VLAN different from a VLAN to which a frame has been another LAN switch (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 16**, Frantz discloses the LAN switch as mapped by a VLAN mapping portion of claimed in claim 6, further comprising a frame classifier for classifying received frames to a plurality of classes the VLAN mapping portion mapping the frames to VLAN's associated with the classes (column 7, lines 22-31; column 10, lines 55-66).

Regarding **claim 17**, Frantz discloses the LAN switch as claimed in claim 6, further comprising a path

monitor for monitoring a response on each VLAN,

the VLAN mapping portion mapping a frame, when the path monitor detects a VLAN having a lowered response, having been

mapped to the VLAN to another VLAN (column 7, lines 22-31; column 10, lines 55-66)..

Regarding **claim 18**, Frantz discloses the LAN switch as claimed in claim 6, further comprising a path selector for transmitting, when a frame having an IP packet capsuled is received, a ping frame to a member having a destination IP address of the IP packet, and for selecting an optimum VLAN, based on a response time of the transmission, from among a plurality of VLAN's associated with the concerned frame (column 7, lines 22-31; column 10, lines 55-66).,

the VLAN mapping portion mapping the frame having the IP packet capsuled for the IP address to the optimum VLAN.

Regarding **claim 19**, Frantz discloses the LAN switch as claimed in claim 6; further comprising a pause frame storage for monitoring a number of pause frames received on each VLAN, and for notifying the VLAN mapping portion of a VLAN in which the number of pause frames within a predetermined time exceeds a specified value,

the VLAN mapping portion mapping a frame having been mapped to the VLAN to another VLAN(column 7, lines 22-31; column 10, lines 55-66),.

Regarding **claim 20**, Frantz discloses the LAN switch as claimed in claim 6, further comprising an error frame storage for storing a number of frames including errors within a predetermined time on whether or not the number has value, each VLAN, and for determining reached a predetermined specified the VLAN mapping portion mapping, based on the determination result, a frame having been mapped to the VLAN having reached the specified value to another VLAN (column 7, lines 22-31; column 10, lines 55-66).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 3, 5; 8-11, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Frantz in view of Doherty et al (Doherty) U.S. Patent No. 6,650,639 B2.

Regarding claim 5: Frantz discloses the invention substantially as claimed. Frantz teaches the LAN switching method as claimed in claim 4 , but fails to disclose all the details of a LAN switching wherein each path comprises a physical or a logical loopless path.

In the same field of endeavor, Doherty discloses an "...if the two stations are allowed to have a connection, then the server M10 will determine the path of switches to be used to provide a logical connection between M11 and M99. c) Since M11 can reach M99 by two different paths, one "best" path is selected. "Best" is constrained by, for example, cost, bandwidth, policy, loss, and other metrics. d) Let's assume the best path is chosen as traversing S1 to S3 to S5..."[*see* Doherty*; column 4, lines 5-13*].

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Doherty teachings of a physical path or a loopless logical path with the teachings of Frantz, for the purpose of improving the ability of a network "*...to provide a way of reducing the number of connection table entries required so as to in turn reduce the amount of memory required in the secure fast packet switch*" as stated by Doherty in lines 55-60 of column 1. By this rationale, **claim 5** is rejected.

Regarding **claim 3**, the combination Frantz- Doherty discloses the LAN switching method as claimed in claim 1 wherein each path of the VLAN's comprises a physical or a logical loopless path [*see* Doherty*; column 4, lines 5-13*].

Regarding **claim 8**, the combination Frantz- Doherty discloses the LAN switch as claimed in claim 6 wherein each path of the VLAN's comprises a physical or a logical path [*see* Doherty*; column 4, lines 5-13*].

Regarding **claim 9**, the combination Frantz- Doherty discloses the LAN switch as claimed in claim 7 wherein each path comprises a physical or a logical path [*see* Doherty*; column 4, lines 5-13*].

Regarding **claim 10**, the combination Frantz- Doherty discloses the LAN switch as claimed in claim 8 or 9 wherein the path is loopless [*see* Doherty*; column 4, lines 5-13*].

Regarding **claim 11**, Frantz discloses the LAN switch as claimed in claim 10 wherein the path is selected by a spanning tree protocol [*see* Doherty*; column 4, lines 5-13*].

Regarding claim 21: the combination Frantz- Doherty discloses the LAN switch as claimed in claim 13, further disclose a LAN switch comprising an alarm processor for broadcasting an alarm transferring frame notifying a VLAN on which a fault has occurred through a designated VLAN, based on an alarm distribution request from the line fault detector (see Frantz; column 7, lines 22-31; column 10, lines 55-66),

the line fault detector providing the alarm processor with an alarm distribution request requesting to transmit the alarm transferring frame through a VLAN on which a fault has occurred when a line fault on the VLAN has been detected, and providing the alarm processor with an alarm distribution request requesting to transmit the alarm transferring frame through VLAN's except the VLAN on which a fault has occurred when an alarm transferring frame has been received from another LAN switch (see Doherty; column 5, lines 15-28).

Conclusion

6. Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3719.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Jude Jean-Gilles

Patent Examiner

Art Unit 2143

January 19, 2007